

Hurricane Katrina Update New Direction

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If you have information or photos you'd like to submit for consideration in the newsletter please send to maria.tolleson@navy.mil or mstolleson@yahoo.com

SSC NOLA Building Restoration

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Clear ducts snake throughout the three SSC New Orleans buildings on the lakefront as contractors work to clean, repair, and decontaminate the wind and water damaged facility.

During Hurricane Katrina in late August sections of the roofs were ripped off, allowing water to pour down the interior walls and saturate the carpet and sheetrock on all floors. The north side of the buildings facing the lake sustained the most damage, with Building 2 faring the worst overall.

Mold has claimed a few offices, creeping into the ceiling and crawling over chairs. The carpet has been removed throughout all three buildings, and work has begun on removing contaminated drywall and ceiling tiles. Even the fabric covered cubicle walls may have to be removed in the more affected spaces.

Industrial hygienists are swabbing all of the surfaces and sending them off to



Photograph provided by Jon V. Hallmark

Cranes work to remove debris from atop Building 3 where the damaged roof is being removed in sections. Water leaked in through damaged sections of the roof during the storm and poured down the windows of the building.

test the level of microbe growth. These hygienists work for an independent company, Ecosystems Environment Services, Inc., hired by the UNO Foundation, as part of the quality control process.

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Keep Your Home Healthy

(Reprinted in part from North Dakota State University Extension Service AE-1204)

Many activities in the home produce moisture that needs to be removed. Each person produces about three pints of water per day while breathing. About one pint of moisture is introduced into a home during a 10-minute shower. Run the bathroom exhaust fan during and for a few minutes after showers to exhaust the moisture. Additional moisture is added by towels drying.

A house will produce six to sixteen pints of moisture per day as materials in it dry during the fall. Moisture coming through a concrete basement floor and walls due to moist soil on the outside may be as much as 100 pints per day. Remove moisture by ventilation when outside temperatures are cool and with a dehumidifier or air conditioning when outside temperatures are warm. Make sure to vent a clothes dryer outdoors. About five pints of water are removed per load of clothes. This amount of moisture could cause severe moisture problems, such as mold growth, if vented into the house.

A major problem with excess moisture in the home is mold. Exposure to mold can cause cold-like symptoms, respiratory problems, nasal and sinus congestion, watery eyes, sore throat, coughing,

skin irritation, and can trigger asthma attacks. Children, the elderly, pregnant women and people with existing respiratory sensitivities are at higher risk for adverse health effects of mold. If you can smell or see mold, you have a mold problem. Since people react to mold whether it is living or dead, the mold must be removed.

Mold can be removed from hard surfaces such as hard plastic, glass, metal, and counter tops by scrubbing with a soap or detergent. (Do not mix ammonia and bleach. The fumes are toxic.) It is impossible to completely remove mold from porous surfaces such as paper, Sheetrock (drywall) and carpet padding. These materials should be removed and discarded. Scrubbing may not completely remove mold growth on structural wood, such as wall studs, so it may need to be removed by sanding. Wear personal protective gear and isolate the work area from the rest of the home while sanding.

After the mold is removed from structural wood, disinfect the area using a chlorine (sodium hypochlorite) bleach and water solution or another disinfectant. The amount of bleach recommended per gallon varies considerably. A clean surface requires less bleach than a dirty surface. A solution of $\frac{1}{4}$ to $\frac{1}{2}$ cup bleach to 1 gallon of water should be adequate for

Important Numbers and Web Sites

- ✱ Navy Global Distance Support Center (to update your location and contact information), 1-877-418-6824, Option 2 or www.anchordesk.navy.mil
- ✱ BUPERS 24-hour Helpline, 1-877-414-5358
- ✱ Safe Haven Orders, 1-866-239-0303
- ✱ 24-hour Support Hotline, 1-800-677-5327
- ✱ SSC NOLA Executive Officer, 1-850-452-5810
- ✱ Per Diem Rates <https://secureapp2.hqda.pentagon.mil/perdiem/perdiemrates.html>
- ✱ FEMA, 1-800-621-3362 or www.fema.gov
- ✱ Red Cross, www.redcross.org

clean surfaces. The surface must remain wet for about 15 minutes to allow the solution to disinfect. Provide adequate ventilation – exchanging inside air with outside air – during disinfecting, and wear rubber gloves. Rapidly dry the surfaces.

Mold will grow on wet materials in 24 to 48 hours. Expose flooded materials to dry airflow to promote rapid drying. Wall cavities and other closed areas, such as flooring layers, need to be opened to permit drying before mold growth occurs.

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SSC NOLA Restoration (continued)

microorganisms, are living cells too small to be seen with the naked eye. The naked eye is able to detect the presence of microbes once it has multiplied to the hundreds of thousands. Under the right conditions, microbes can double in number every 15 – 20 minutes. The types of microbes include bacteria, algae, and fungi or mold.

Mold is a year-round permanent resident in the humid climates of the deep south, but the recent triad of ideal conditions brought about by Hurricane Katrina has provided for an explosive growth in the plant-based fungi. Mold requires water (moisture), food in the form of a porous surface, and a specific temperature. These microscopic airborne spores germinate on contact with the surface of a non-living organic matter where moisture is present. What people commonly call mildew is in fact a type of mold.

The ducts snaking up the stairwells and in the lobbies of the SSC New Orleans buildings are providing fresh air to the upper floors, and in some cases are delivering dry, hot air to act as a desiccant where moisture is still present.

Large air scrubber units are stationed on each floor filtering 99.9 percent of microbial contaminants.

Additionally, contractors working within the building will be required

to wear respirators with High Efficiency Particulate Air (HEPA) filters, gloves, and full body Tyvek suits, in compliance with OSHA (Occupational Safety and Health Administration) and EPA (Environmental Protection Agency) recommendations.

On some floors, the contaminated drywall has already been removed. In other areas mold covered walls are encased in



Photograph provided by Jon V. Hallmark
Clear ducts snake through the lobbies and up the stairwells bringing fresh air to the upper floors, and dry air to act as a desiccant.

plastic, sealing the spores until remediation teams get to them.

Every surface will be treated with a several step process which in some instances may consist of a vacuuming with a HEPA rated vacuum cleaner, then a microbial bath, followed by another HEPAVAC vacuuming, then a washing with soap and water, and then a final HEPAVAC vacuuming. Some areas may require more steps, others less. Afterwards, the independent industrial hygienists will test all surfaces again.

The huge HVAC units which provide climate control for the buildings will need to be cleaned by specialists, who in some cases, may have to climb into the big units to clean them from the inside.

Atop Building 3 workers were peeling off what was left of the roof in scored 2' x 2' sections which were then lowered by crane to a dumpster below. The immediate need in Building 3, which has the most damage to its roof, was to seal the leaks before any future precipitation exacerbated the damage. A "wet mop" temporary fix has been put in place using near boiling tar "mopped onto" the newly scraped rooftop. This temporary repair will last for a few months until permanent repair measures can be made. Buildings 2 and 4 roof-



Workers scrap up the damaged roof in scored sections and replace it with a temporary fix known as "wet mopping" with near-boiling tar.



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SSC NOLA Restoratoin (continued)

tops were not nearly as affected and required less extensive remediation efforts.

All cubicle contents will be removed and taken to a decontamination area being set up on the ground level of the parking garage. The cubicles will be photographed to document the contents and placement of each item. Then the items will be decontaminated or designated for disposal. The cleaned items will then be boxed up, sealed and placed in each employee's cubicle awaiting their return. SSC New Orleans leadership is soliciting government employees to serve as floor monitors to shadow the Contents team as they decontaminate personal belongings.

While most of the city's residents threw out their refrigerators with the rotting contents imprisoned inside, the break room refrigerators are being decontaminated in compliance with the strict cleaning process. However, the contents of the vending machines will have to be disposed of.

Priority will be given to restoring the Computer Operations Center and Systems Management Center on Building 3's fifth floor. SSC New Orleans personnel removed the servers that were housed on the Computer Operations floor in the first few days after the storm.

The plan is to have the first employees begin to return in January 2006 with full reoccupation by April 2006.

In the meanwhile, work is taking place in Millington, Tennessee; Fort Worth, Texas, Pensacola, Florida, Washington, D.C., and around the greater New Orleans area. Contractor leased office facilities in Luling and Covington, Louisiana are also available. *(Note: Issue Two will feature the activity taking place at these alternate work locations.)*

The state of Louisiana requires that mold remediators are licensed by the state, and that no mold remediation can begin without an assessment by qualified scientists. Scientists will clear these buildings before employees will be allowed to return.



Photograph provided by Jon V. Hallmark

As shown above, several panels were ripped off of the skin of the building allowing storm water to enter the walls.



The hallway pictured above is stripped bare.



(below) Mold spores proliferate on porous surfaces such as dry-wall, paper and upholstered chairs.



The stage in the auditorium pictured below in Building 4 has been dismantled and the carpets removed as it enters the early stages of remediation.



(to the left) These particularly black, virulent looking walls will be removed completely and the remaining frame will undergo an extensive decontamination process and testing.

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Restoration photographs (continued)



Photograph provided by Jon V. Hallmark

Carpet and debris stacks up outside the SSC NOLA buildings as remediation efforts go into effect.



(above) Mold has claimed the walls in this first floor area.

(below) Sensitive files are secured in this mold ravaged office.



(below) Water breached into the walls and began to settle into the sheetrock.



(above) This office was near the epicenter of where water breached the roof and poured down the walls.

(below) Mold in the ceiling tiles.



(left) Mold even entered the vending machines and began to spot the rows.

Molds in the Environment

Below are answers to some of the questions you may have regarding Mold

What are molds?

Molds are fungi that can be found both indoors and outdoors. No one knows how many species of fungi exist but estimates range from tens of thousands to perhaps three hundred thousand or more. Molds grow best in warm, damp, and humid conditions, and spread and reproduce by making spores. Mold spores can survive harsh environmental conditions, such as dry conditions, that do not support normal mold growth.

What are some of the common indoor molds?

- Cladosporium
- Penicillium
- Alternaria
- Aspergillus

How do molds affect people?

Some people are sensitive to molds. For these people, exposure to molds can cause symptoms such as nasal stuffiness, eye irritation, wheezing, or skin irritation. Some people, such as those with serious allergies to molds, may have more severe reactions. Severe reactions may occur among workers exposed to large amounts of molds in occupational settings, such as farmers working around moldy hay. Severe reactions may include fever and shortness of breath. Some people with chronic lung illnesses, such as obstructive lung disease, may develop mold infections in their lungs.

Where are molds found?

Molds are found in virtually every environment and can be detected, both indoors and outdoors, year round. Mold growth is encouraged by warm and humid conditions. Outdoors they can be found in shady, damp areas or places where leaves or other vegetation is decomposing. Indoors they can be found where humidity levels are high, such as basements or showers.

How can people decrease mold exposure?

Sensitive individuals should avoid areas that are likely to have mold, such as compost piles, cut grass, and wooded areas. Inside homes, mold growth can be slowed by keeping humidity levels between 40% and 60%, and ventilating showers and cooking areas. If there is mold growth in your home, you should clean up the mold and fix the water problem. Mold growth can be removed from hard surfaces with commercial products, soap and water, or a bleach solution of 1 cup of bleach in 1 gallon of water.

If you choose to use bleach to clean up mold:

- Never mix bleach with ammonia. Mixing bleach and ammonia can produce dangerous, toxic fumes.
- Open windows and doors to provide fresh air.
- Wear non-porous gloves and protective eye wear.
- If the area to be cleaned is more than 10 square feet, consult the U.S. Environmental Protection Agency (EPA) guide titled *Mold Remediation in Schools and Commercial Buildings*. Although focused on schools and commercial buildings, this document also applies to other building types. You can get it free by calling the EPA Indoor Air Quality Information Clearinghouse at (800) 438-4318, or by going to the EPA web site at http://www.epa.gov/mold/mold_remediation.html.
- Always follow the manufacturer's instructions when using bleach or any other cleaning product.

Specific Recommendations:

- Keep the humidity level in the house between 40 percent and 60 percent.
- Use an air conditioner or a dehumidifier during humid months.
- Be sure the home has adequate ventilation, including exhaust fans.
- Add mold inhibitors to paints before application.
- Clean bathrooms with mold killing products.
- Do not carpet bathrooms and basements.
- Remove or replace previously soaked carpets and upholstery.

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Ten Things You should Know about Mold

(Reprinted from USA EPA Website)

1. Potential health effects and symptoms associated with mold exposures include allergic reactions, asthma and other respiratory complaints.
2. There is no practical way to eliminate all mold and mold spores in the indoor environment; the way to control indoor mold growth is to control moisture.
3. If mold is a problem in your home or office, you must clean up the mold and eliminate sources of moistures.
4. Fix the source of the water problem or leak to prevent mold growth.
5. Reduce indoor humidity (to 30 -60%) to decrease mold growth by: venting bathrooms, dryers and other moisture-generating sources to the outside; using air conditioners and de-humidifiers; increasing ventilation; and using exhaust fans whenever cooking, dishwashing and cleaning.
6. Clean and dry any damp or wet building materials and furnishings within 24-48 hours to prevent mold growth.
7. Clean mold off of hard surfaces with water and detergent, and dry completely. Absorbent materials such as ceiling tiles that are moldy may need to be replaced.
8. Prevent condensation: Reduce the potential for condensation on cold surfaces (i.e. windows, piping, exterior walls, roof or floors) by adding insulation.
9. In areas where there is a perpetual moisture problem, do not install carpeting (i.e. in bathrooms, near water fountains, or on concrete floors with leaks or frequent condensation).
10. Molds can be found almost anywhere; they can grow on virtually any substance, providing moisture is present. There are molds that can grow on wood, paper, carpet and foods.

Molds in the environment (continued)

What areas have high mold exposures?

- Antique shops
- Greenhouses
- Saunas
- Farms
- Mills
- Construction areas
- Flower shops
- Summer cottages

I found mold growing in my home, how do I test the mold?

Generally, it is not necessary to identify the species of mold growing in a residence, and CDC does not recommend routine sampling for molds. Current evidence indicates that allergies are the type of diseases most often associated with molds. Since the susceptibility of individuals can vary greatly either because of the amount or type of mold, sampling and culturing are not reliable in determining your health risk. If you are susceptible to mold and mold is seen or smelled, there is a potential health risk; therefore, no matter what type of mold is present, you should arrange for its removal. Furthermore, reliable sampling for mold can be expensive, and standards for judging what is and what is not an acceptable or tolerable quantity of mold have not been established.

What type of doctor should I see concerning mold exposure?

You should first consult a family or general health care provider who will decide whether you need referral to a specialist. Such specialists might include an allergist who treats patients with mold allergies or an infectious disease physician who treats mold infections. If an infection is in the lungs, a pulmonary physician might be recommended. Patients who have been exposed to molds in their workplace may be referred to an occupational physician.

To learn more about Mold log onto the following websites:

www.epa.gov/mold/moldresources.html - EPA Indoor Air Quality: Mold

www.fema.gov/mit - Mitigation Division

www.uwex.edu/ces/news/handbook.html - The Disaster Handbook

<http://www.cdc.gov/mold/faqs.htm> - Molds in the Environment